

## Patent Claims

1. Radar system, in particular for motor vehicles, composed of one or more individual radar, at least one of which has both means for sensing and means for transmitting data, characterized in that the means for sensing and the means for transmitting data can be operated simultaneously for a communication.
2. Radar system according to Claim 1, characterized in that it is a pulse-type radar device with predefined transmission/reception spectrum with a frequency range which is provided for the transmission of data, with a notch filter being provided which is suitable for selectively attenuating the frequency ranges in which spectral components of the sensing signal are present in the frequency range provided for the transmission of data.
3. Radar system according to one of the preceding claims, characterized in that it is a pulse-type radar device with predefined transmission/reception spectrum in whose peripheral region there is a frequency range provided for the transmission of data.
4. Radar system according to Claim 3, characterized in that the peripheral region comprises the upper and lower 10% of the transmission/reception spectrum or less.
5. Radar system according to one of the preceding Claims 2 to 4, characterized in that individual frequency bands for the transmission of data from different data classes, in particular emergency data, log data or communications data, are provided within the frequency range which is provided for the transmission of data.
6. Radar system according to one of the preceding claims, characterized in that in particular amplitude modulation is provided for the transmission of emergency data, and in particular PSK types of modulation are provided for the transmission of communications data and log data.
7. Radar device signal receiver which is suitable for receiving a communications data

signal in a radar device signal of a radar system according to one of Claims 1 to 6 and feeding it to a demodulation means.

8. Radar device transmitter which is suitable for simultaneously emitting a broadband signal for sensing and a communications data signal in the peripheral region of the transmission/reception spectrum of the broadband signal.

9. Cooperative radar system having a plurality of radar systems according to Claims 1 to 6 which sense their respective surroundings and simultaneously exchange data with one another.

10. Vehicle having a radar system, characterized in that it has a radar system according to Claims 1 to 6 or a radar device signal receiver according to Claim 7 or a radar device transmitter according to Claim 8.

11. Method for sensing and transmitting data by means of a radar system which has one or more individual radar devices, characterized in that the sensing and transmission of data are carried out simultaneously by means of at least one of the individual radars in the pulsed mode, and a peripheral region of the transmission/reception spectrum of the sensing signal is used for the frequency range which is provided for the transmission of data.